

DETAILED ACTION

Amendment

1. Claims 1-13 are canceled.
2. Claims 14, 15, 19 and 27 are amended.
3. Claim 28 is added.

Response to Arguments

4. Applicant's arguments with respect to claim 14 have been considered but are directed to the newly amended parts; See the detailed rejection below.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 recites the limitation "the capacitor holder" in line 1. There is insufficient antecedent basis for this limitation in the claim. There is no limitation "a capacitor holder" anywhere before.

For examining purpose only, read as "a capacitor holder".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 14, 17-20, 22-24 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurashima et al. (US5596665).

Re Claim 14, Kurashima et al. show and disclose

A device of a control unit, which is of a motor vehicle, having a circuit substrate that is stimulated by vibration during operation for providing a shakeproof accommodation of at least one of an electrical special component and an electrical circuit, comprising:

a carrier (7, fig. 2) onto which a circuit substrate (8, fig. 2) having the special component (3, fig. 1) fastened thereon is mounted in an electrically insulated manner at least over a partial surface (fig. 2) so as to provide static and dynamic stability in a vibration-damping manner.

Examiner's notes: The newly added recitation, "A device of a control unit, which is of a motor vehicle," and "stimulated by vibration during operation for providing a shakeproof accommodation" in the preamble, have not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose

of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Also see in MPEP 2111.02-II: If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). And where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation; *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997).

Re Claim 17, Kurashima et al. show and disclose

The device as recited in Claim 14, wherein the circuit substrate includes one of a printed-circuit board, a flex foil, a ceramic, and a wire harness (a circuit board 8 [col. 2, line 13]).

Re Claim 18, Kurashima et al. show and disclose

The device as recited in Claim 14, wherein the carrier has passages (along edge of 15, fig. 2), for contact pins (43, fig. 2) that pass through.

Re Claim 19, Kurashima et al. show and disclose

The device as recited in Claim 14, wherein the circuit substrate (circuit board 8, fig. 2) fastened to the carrier (carrier 7, fig. 2) is able to be connected to a control unit (control unit of an optical communication system [col. 1, line 8]) via pins [43, fig. 1]).

Re Claim 20, Kurashima et al. show and disclose

The device as recited in Claim 19, wherein the pins include one of a pin strip, SMD pins, punched bent parts, and male pin connectors (43 is a pin strip, SMT pins, punched bent parts and male pin of the connector, fig. 1).

Re Claim 22, Kurashima et al. show and disclose

The device as recited in Claim 20, wherein each pin strip is pressed into the circuit substrate (a U-shaped clamping portion 43a having a predetermined clamping force, and the clamping portions 43a clamp the rear end of the circuit board 8 to properly mount the lead pins 43 on the circuit board 8 [col. 14, line 3 and line 7]).

Re Claim 23, Kurashima et al. show and disclose

The device as recited in Claim 20, wherein the SMD pins are soldered onto the circuit substrate and extend downwards via lateral edges of the carrier (fig. 2) to connect to a main board (of an optical communication system [col. 1, line 8]).

Re Claim 24, Kurashima et al. show and disclose

The device as recited in Claim 14, wherein the circuit substrate fastened to the carrier is able to be connected to the control unit via a flex foil (46c, fig. 3) and a plug connection (2a, fig. 3).

Re Claim 27, Kurashima et al. show and disclose

The device as recited in Claim 14, wherein the shakeproof accommodation is in a development as a second component set for a control unit (control unit of an optical communication system [col. 1, line 8], the connect pin 34 of the circuit board 8, fig. 2, is able to be connected the control unit of the optical communication system).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 15, 16, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurashima et al. in view of Tam (US5107404).

Re Claim 15, Kurashima et al. show and disclose

The device as recited in Claim 14,

Kurashima et al. does not disclose

an electrically insulating medium provided between the carrier and the circuit substrate.

Tam teaches a device wherein

an electrically insulating medium (a one side insulated copper foil [col. 6, line 46]) provided between the carrier and the circuit substrate.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the insulating foil as taught by Tam in the electronic device of Kurashima et al., in order to provide better insulation between the circuit board and the carrier, and to improve the reliability of the electronic device.

Re Claims 16 and 25, Kurashima et al. show and disclose

The device as recited in Claim 14,

Kurashima et al. does not disclose

wherein the circuit substrate is fastened to the carrier by one of a heat-dissipating adhesive, a laminated-on adhesive foil, screws, rivets and crimping;

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wherein the carrier has screw openings for a passage of especially fastening screws that are able to be screwed into a floor of a control unit.

Tam teaches a device wherein

the circuit substrate is fastened to the carrier by one of a heat-dissipating adhesive, a laminated-on adhesive foil, screws, rivets and crimping (by screw 45 and screw holes 47 and 43, fig. 1); the carrier has screw openings (47, fig. 1) for a passage of especially fastening screws (47, fig. 1) that are able to be screwed into a floor of a control unit (13, fig. 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screws and screw holes as taught by Tam in the electronic device of Kurashima et al., in order to secure the circuit board and the carrier in the electronic device.

Re Claim 26, Kurashima et al. show and disclose

The device as recited in Claim 14,

Kurashima et al. does not disclose

wherein the carrier is made of cast aluminum.

Tam teaches a device wherein

the carrier is made of cast aluminum (cast aluminum [col. 3, line 14]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the cast aluminum carrier as taught by Tam in the electronic device of Kurashima et al., in order to make the carrier

stronger and be able to integral with the heat sink of the electronic device. (Tam, col. 4, line 10)

12. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurashima et al. in view of Wakabayashi et al. (US20030086245).

Re Claim 21, Kurashima et al. show and disclose

The device as recited in Claim 20,

Kurashima et al. does not disclose

wherein the pin strip is situated on a tab, of the circuit substrate, which protrudes outwards over the carrier.

Wakabayashi et al. teaches a device wherein

the pin strip is situated on a tab (tab of the circuit board 550, where the connector 551 is mounted, fig. 2), of the circuit substrate, which protrudes outwards over the carrier.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the tab of the circuit board as taught by Tam for the pin strip in the electronic device of Kurashima et al., in order to easily connect the pin strip to the other device.

13. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurashima et al.

Re Claim 28, Kurashima et al. show and disclose

The device as recited in claim 14,

Kurashima et al. does not disclose wherein a capacitor holder has a concave surface used to fasten the special component when the special component is a capacitor;

However, figure 2 of Kurashima et al. shows a holder for holding a component (3) has concave surface (surfaces of 24A, 24B and 26 are all concaved, fig. 2) used to fasten the special component (diode 3, fig. 2); when the special component is a capacitor, the holder also could hold the capacitor, and the holder would become a capacitor holder when the special component is a capacitor.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use holder to hold a capacitor, when the component is a capacitor, since the diode holder is able to hold a capacitor, and since a capacitor holder holding a capacitor is well known and common in the art.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action (for new added claim 28). Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiaoliang Chen whose telephone number is (571)272-9079. The examiner can normally be reached on 8:00-5:00 (EST), Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jinhee Lee can be reached on 571-272-1977. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jinhee J Lee/

Xiaoliang Chen

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